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Making our System of Systems Communicate with our Allies: Combined Interoperability

- I would like to make the following points:
  - We are in the middle of a new revolutionary environment.
  - Today's problems and opportunities demand new acquisition and testing approaches.
  - We need to work together within our countries, internationally and government with industry.
- We are in a new rapidly changing environment led by the information technology revolution taking place in the commercial sector.

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- It is the “internetted” technology world all around us that also provides us with an opportunity to net together our sensors, weapons and units into a system-of-systems.
- This ability of systems and units to work together is in fact the new definition of interoperability, and goes much beyond the old identification of interoperability with just communication.

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- To capitalize on the new opportunities, we need new approaches. We have inherited a tradition of developing and testing individual systems instead of system-of-systems across mission capability areas.
- In the US we are all too often Service and “US only” centric.
- Future operations will be joint and combined.
- We can start doing better right now, even though more radical solutions will surely follow. In the various acquisition review fora, like the defense acquisition board, we will be reviewing individual systems in the context of broader “mission capability areas.”

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- As you heard Phil Coyle mention, the test community will similarly need to test system-of-systems capabilities to assure interoperability.
- Also, as we are now talking of testing a set of complex systems, ranging from legacy to developmental, we will need to rely more extensively on modeling and simulation, as well as hardware, software and units “in the loop.”

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- The launching of the joint distributed engineering plant (JDEP) is intended to create a testing and developmental tool across all US Services and industry.
- We need to work together not only within the US, but with our coalition partners.
- Tools like JDEP should be linked to facilities of other friendly countries.
- We need to adopt within our countries “coalition friendly” and “open architecture” approaches. This really translates into commercially based (COTS) approaches that are rooted in international, commercially based, open architecture standards.

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- An example is the high level architecture (HLA) approach to modeling and simulation.
- In addition, as the challenge has become more complex, there is an even greater need for continuous exchange of ideas between government and industry in an international environment, as exemplified so well by this conference.